MODEL 5002

Programmable BCD / Gray Code / Binary Indicator

The Model 5002 is a 6 digit (-199999 to 999999) red LED programmable indicator for parallel digital inputs, such as BCD, Gray Code & Binary inputs. As a universal indicator, the instrument is fully programmable from the front pushbuttons for decimal point selection, scaling, positive or negative logic, parallel or multiplexed BCD input, Gray Code input & Binary input. The panel mount housing is a standard DIN 48 x 96 size.

Applications include displays for PLC outputs for process control, & displays for absolute shaft encoders.

Options include programmable analog output, one, two, three or four alarms, RS 232 output etc. The analog output is rangeable from the front pushbuttons. The instrument meets European Community EMC directive 89/336/EEC & Low Voltage Directive 73/23/EEC.

Selected options now feature 'Plug & Play' technology, allowing option boards to be ordered separately & field fitted when required.

FEATURES

- ❑ DIN 48 x 96 enclosure, 147mm depth
- ❑ 5 ¾ digit display with parallel BCD input (-199999 to 799999)
- ❑ 6 digit display with multiplexed BCD input (-199999 to 999999)
- ❑ 6 digit display with Gray Code input & Binary input (-199999 to 999999)
- ❑ 14.2mm bright red LED display
- ❑ Positive or negative (true or inverse) logic
- ❑ 5 to 24V logic levels
- ❑ Low cost - high performance design
- ❑ Keypad lockout as standard
- ❑ 'Plug & play' feature available with selected options
- ❑ 3 year guarantee

OPTIONS

3001-P	Two setpoints (solid state relays)
3001-M	Two setpoints (electro-mechanical relays)
3002	RS 485 communications
3003	0 - 20mA / 4 - 20 mA analog output
3004-P	One setpoint (solid state relays)
3004-M	One setpoint (electro-mechanical relays)
3006	Isolated outputs (order with 3002/3/7/13)
3007	0 - 5V / 0 - 10V analog output
3009	BCD output option
3010	95-265V AC/DC power supply
3012	Peak / valley hold
3013	RS 232 communications
3017-P	3 setpoints (solid state relays)
3017-M	3 setpoints (electro-mechanical)
3018-P	4 setpoints (solid state relays)
3018-M	4 setpoints (electro-mechanical)

NOTE : Most of the above options are factory fitted. Customer / field fitted options are available as 'plug-&-play' boards and software activated options. Contact factory for more information.

INSTROTECH
INSTRUMENTATION AND PROCESS CONTROL

SPECIFICATIONS

ELECTRICAL SPECIFICATIONS

Input types	: Parallel or multiplexed BCD, Gray Code, or Binary input
Logic	: Positive or negative (true or inverse)
Level	: 5 to 24V
Internal pull-ups	: Yes
Display	: 6 digit, 14.2mm red LED, -199999 to 999999
Display update rate	: 5 per second
Memory retention	: Full non-volatile operation
Operating temp. range	: -10°C to +50°C
Storage temperature range	: -40 to +80°C
Humidity	: <85% non-condensing
Relays, electro-mechanical	: 250VAC, 30VDC, 2A, PF=1
Relays, solid state	: 400V AC/DC, 0.5A, PF=1
Analog output accuracy	: 0.1% of full scale
Temperature coefficient	: 20 ppm / °C typically
Current analog output load	: 500 maximum
Voltage analog output load	: 1 k minimum
Option 3006 isolation rating	: 1500 V
EC EMC & Low Volt directives	: 89/336/EEC & 73/23/EEC
Terminations	: 2 way plug for auxiliary supply, 0.2 - 2.5mm^2
	: 25 way D-type male connector, with female cable plug incl.

POWER SUPPLY

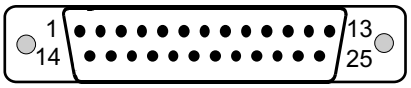
STANDARD
115 / 230 VAC ± 10% (standard), link selectable, 50/60Hz, 5VA typical
12VDC or 24VDC non-isolated on request, 5VA typical

OPTIONAL
12VDC isolated switch mode power supply option (Option 3008-12), 5VA typical
24VDC isolated switch mode power supply option (Option 3008-24), 5VA typical
95V-265V AC/DC switch mode power supply option (Option 3010), 5VA typical

PROGRAMMABLE SETTINGS

Decimal point	: x.xxxxx, xx.xxxx, xxx.xxx, xxxx.xx, xxxxx.x (default), xxxxxx
Logic "1"	: High or Low (positive or negative)
Code	: BCD, Gray Code or Binary (default)
Scaling	: 0.001 to 999.999 (default is 1.000)
Method	: Parallel or Multiplexed for BCD
*Analog output zero	: -199999 to 999999 (for 0 - 20 / 4 - 20mA or 0 - 5V / 0 - 10V out)
*Analog output span	: -199999 to 999999
*Alarm values	: -199999 to 999999 (default)
*Alarm hysteresis	: 0 to 255 (default 1)
*Alarm delay	: 0 to 255 seconds (default 0)
*Alarm relay settings	: Selectable HIGH (default) or LOW alarm
*Alarm relay state	: Selectable normally open (default) or normally closed
*Protocol options	: DPM's DIGIbus (default) or ASCIIbus
*RS485 address (Digibus)	: 0 (default) to 127
*RS485 address (Asciibus)	: 0 (default) to 99
*RS232 / RS485 baud rate	: 2400, 4800, 9600 (default), 19200

* indicates option



25-way D-type male connector on indicator

TERMINATIONS FOR PARALLEL BCD INPUT (5 ¾ DIGIT ONLY)

1 = Binary 1 units
14 = Binary 2 units
2 = Binary 4 units
15 = Binary 8 units

3 = Binary 1 tens
16 = Binary 2 tens
4 = Binary 4 tens
17 = Binary 8 tens

5 = Binary 1 hundreds
18 = Binary 2 hundreds
6 = Binary 4 hundreds
19 = Binary 8 hundreds

7 = Binary 1 thousands
20 = Binary 2 thousands
8 = Binary 4 thousands
21 = Binary 8 thousands

9 = Binary 1 ten thousands
22 = Binary 2 ten thousands
10 = Binary 4 ten thousands
23 = Binary 8 ten thousands

11 = Binary 1 hundred thousands
24 = Binary 2 hundred thousands
12 = Binary 4 hundred thousands

25 = Common (negative)
13 = Polarity pin (Note 1)

TERMINATIONS FOR MULTIPLEXED BCD INPUT (FULL 6 DIGIT)

1 = Binary 1
14 = Binary 2
2 = Binary 4
15 = Binary 8

3 = Latch enable, units
16 = Latch enable, tens
4 = Latch enable, hundreds
17 = Latch enable, thousands
5 = Latch enable, ten thousands
18 = Latch enable, hundred thousands

25 = Common (negative)
13 = Polarity pin (Note 1)

6, 7, 8, 9, 10, 11, 12, 19, 20, 21, 22, 23, 24 = Not used

TERMINATIONS FOR GRAY CODE or BINARY (20-BIT) INPUT (FULL 6 DIGIT)

1 = Bit 1 (LSB)
14 = Bit 2
2 = Bit 3
15 = Bit 4

3 = Bit 5
16 = Bit 6
4 = Bit 7
17 = Bit 8

5 = Bit 9
18 = Bit 10
6 = Bit 11
19 = Bit 12

7 = Bit 13
20 = Bit 14
8 = Bit 15
21 = Bit 16

9 = Bit 17
22 = Bit 18
10 = Bit 19
23 = Bit 20

11 = Not used
24 = Not used
12 = Not used

25 = Common (negative)
13 = Polarity pin (Note 1)

Note (1) : If Positive logic is selected in the menu, then a Low input to pin 13 implies negative polarity.
: If Negative logic is selected in the menu, then a Low input to pin 13 implies positive polarity.

Note : Illegal BCD input states are clamped to a value of “9”.

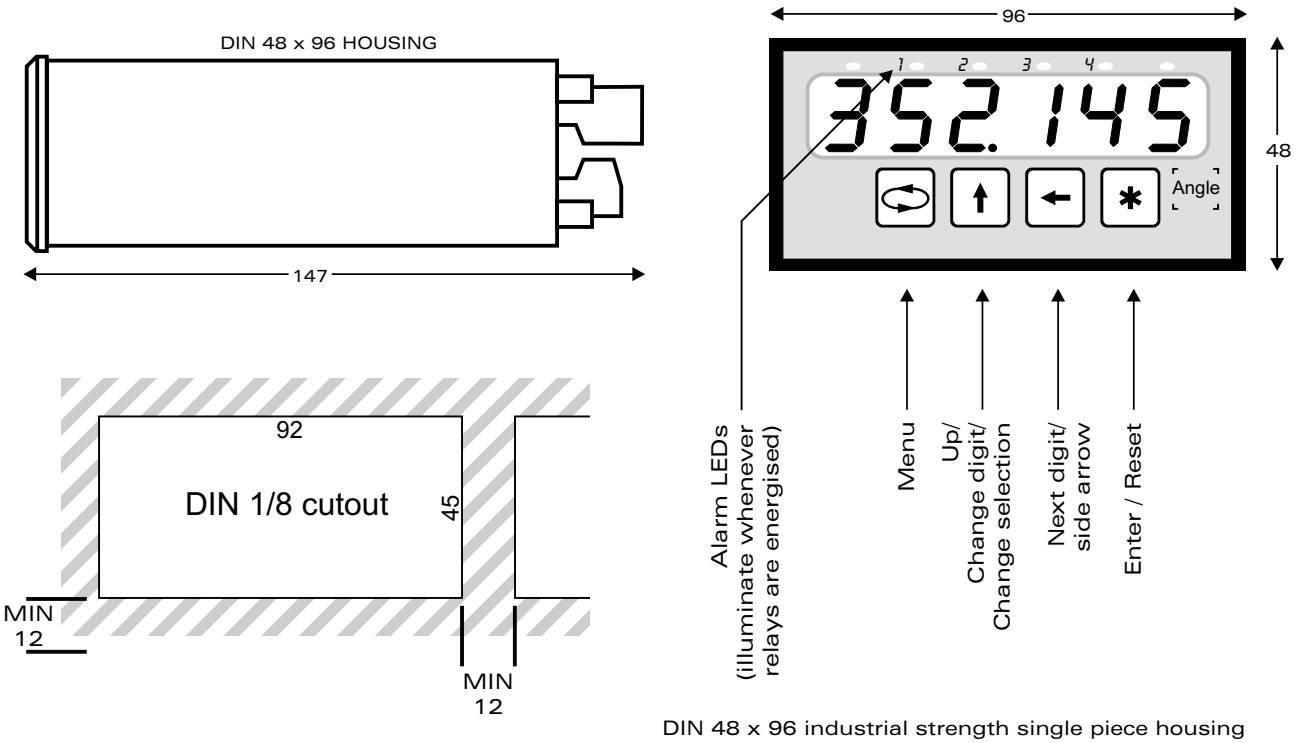
ORDERING EXAMPLE

Option modules (see page 1)

MODEL 5002 - 3001P - 3003

Aux supply : 230 VAC
Analog output : 4 - 20 mA = 0 - 250.0
Setpoints : 2 setpoints with solid state relays

FRONT PANEL, DIMENSIONS & CUTOUT



DIN 48 x 96 industrial strength single piece housing
Flame retardant ABS plastic, meets UL 94 V-0 flamability rating
Front panel IP65 (with o-ring seal supplied as standard)

Dimension in mm

GUARANTEE

This product is guaranteed against faulty workmanship or defective material, for a period of 3 (three) years from date of delivery by Instrotech.

Instrotech undertakes to replace without charge all defective equipment which is returned to it (transportation costs prepaid) during the period of guarantee, provided there is no evidence that the equipment has been abused or mishandled in any way.

Instrotech reserves the right to alter any specification without notice.

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DISTRIBUTED BY:

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